



Bellevue Downtown Access Project NE 8th Street Bridge Replacement

September 30, 2008
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HDR Engineering, Inc.

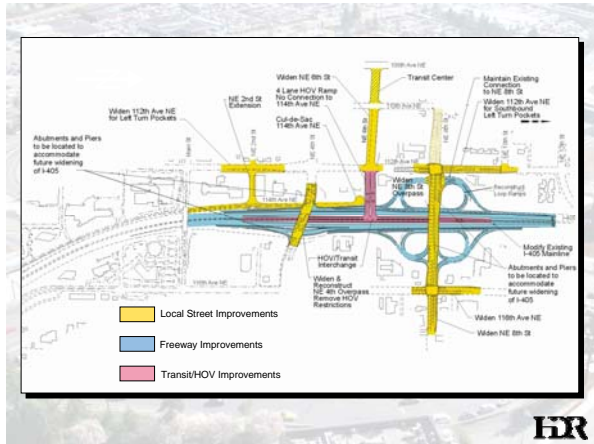


Puget Sound Freeway System



Bellevue Direct Access Project





Funding Partners

Sound Transit	\$103.4 M
City of Bellevue	\$12.8 M
FHWA	\$31.2 M
WSDOT	\$11.2 M
TIB	\$6 M
TOTAL	\$164 M

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NE 6th Street



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NE 8th Street Bridge



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I-405 Corridor Traffic



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NE 8th Bridge Replacement Design Challenge

How do you rebuild a major arterial running east/west into the heart of downtown Bellevue without causing excessive disruption to traffic and commerce?



Design Options:

Close Old Bridge to Traffic,
Demolish and Rebuild

Stage Demolition and
Reconstruction, One Half at a Time

Modified Stage Construction of
Bridge in a Temporary Location



Design Selection

Modified Staged Construction

Build Half of the Bridge in a Temporary
Location and then Roll the New Bridge
Approximately 64 Feet to the North.

Benefits

Reduce NE 8th Total Closures from 12-
18 Months to Nighttime Closures and a
Handful of Weekend Closures.

Risks

Can You Build and Roll the Bridge into
Position?



Structure Type Selection Considerations

Span Length

Structural Depth / Weight

Roadway Vertical Clearance During Construction

Traffic Maintenance Considerations

- NE 8th
- I-405

Selected Structure Type

- Composite Steel Girder / Concrete Deck

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NE 8th Bridge Construction

Old Bridge

292.5 Feet Long

103 Feet Wide

6 Lanes

7 Bridge Piers

New Bridge

328 Feet Long

121.5 Feet Wide

8 Lanes

3 Bridge Piers



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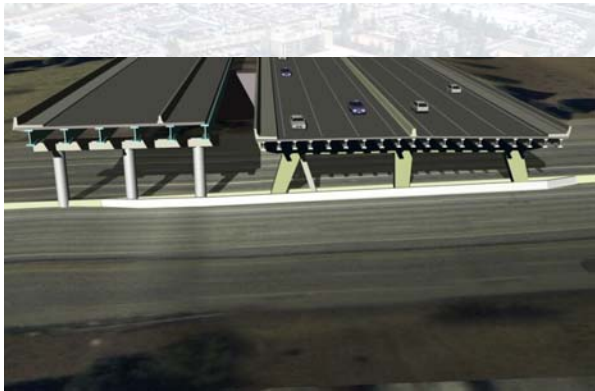
Existing Bridge

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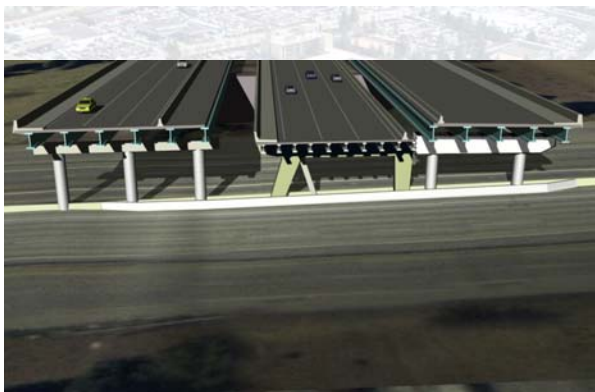
Existing Bridge





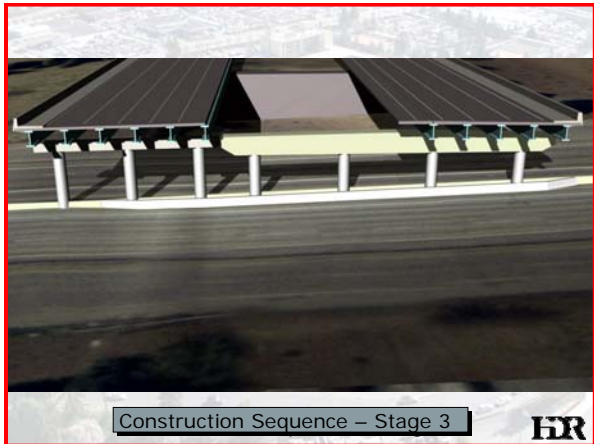
Construction Sequence – Stage 1

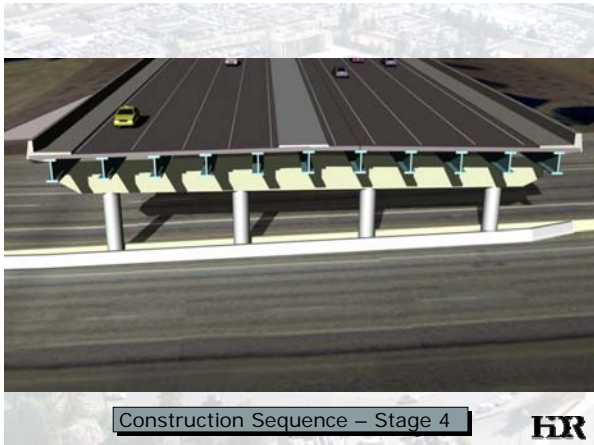




Construction Sequence – Stage 2







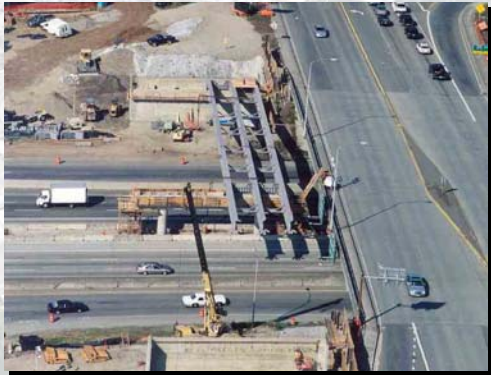








Stage 1



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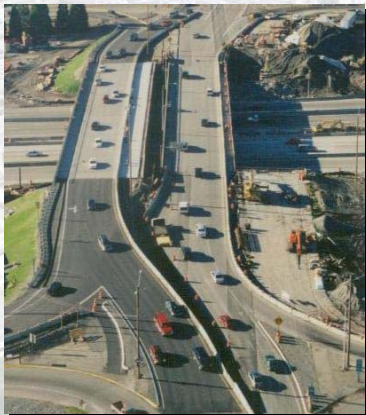
**November 2-3,
2002**



**Weekend Traffic
Shift #1**

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**Stage 2:
Winter 2002-
2003**



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Stage 2: Bracing of remaining piers



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Stage 2: Demolish North Half of Bridge



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**December
2002**



**North Half
Demolished**

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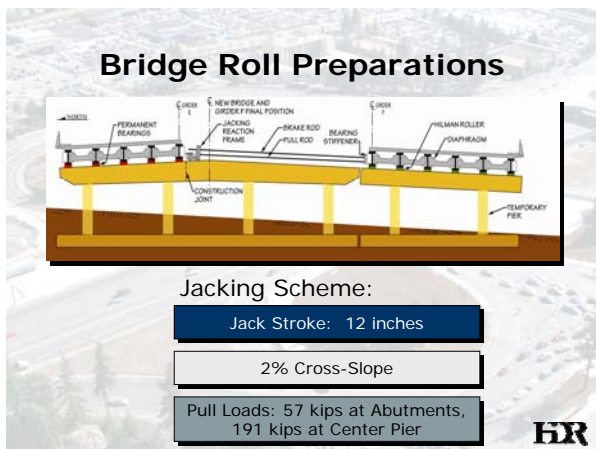






























Innovative Delivery and Construction Methods to Minimize Impacts to Traveling Public

Traffic Maintenance

- Detailed Traffic Analysis
- City of Bellevue Involvement
- Public Information

Structure Demolition Methods

NE 8th Bridge Rolling

Structure Demolition Methods






NE 8th Project Incentives

Project Incentives to Limit the Number of Days for Total HOV Closure

Results

- Contractor Received \$190,000 Worth of Incentives
- Reduced HOV Lane Closures by 19 Days

Benefits

- Reduction in Traffic Impacts
- Good Press, Positive Feedback from City, Business Community and Public
- Opportunity for Contractor to Control this Phase of Work

NE 8th Project Incentives



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Project Accomplishments

Project Completed One Year Ahead of Schedule

Project Cost \$25 million under budget

Recipient of Several Awards

- Bellevue Chamber of Commerce Miracle of the Year (2)
- ARTBA Pride Award 2005
- ASCE Outstanding Civil Engineering Project, Seattle Section 2005

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Bellevue Downtown Access Project



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